Syllabus

[cmcd.economia@fgv.br]

Course: ***Applied Microeconometrics I***
Professors:

2016 THIRD QUARTER

PROGRAM

This course is the first part of a sequence of two courses that presents the econometric methods for impact evaluation. It discusses the literature of identification and estimation of treatment effects. The first part discusses the problem of causal inference, the use of randomized experiments, and the methods of selection on observables. It discusses theoretically the methods and presents applications with Brazilian data.

BIBLIOGRAPHY

Textbooks and Reference Surveys

Angrist, Joshua D. and Jörn-Steffen Pischke. 2009. *Mostly Harmless Econometrics*. Princeton University Press.

Blundell, Richard and Monica Costa Dias (2009), “Alternative approaches to evaluation in empirical microeconomics,” *Journal of Human Resources*, Vol. 44, No. 3, pp. 565-640.

Bourguignon, François e Luiz A. Pereira da Silva (eds.). 2003. *The Impact of Economic Policies on Poverty and Income Distribution. Evaluation Techniques and Tools.* Nova York: Oxford University Press for the World Bank.

Cameron, A. Colin e Pravin K. Trivedi. 2005. *Microeconometrics: Methods and Applications*. New York: Cambridge University Press.

Deaton, Angus. 1997. *The Analysis of Household Surveys. A Microeconometric Approach to Development Policy.* Baltimore: John Hopkins University Press for the World bank.

Heckman, James J. and Edward J. Vytlacil (2007a), "Econometric evaluation of social programs Part 1: Causal models, structural models, and econometric policy evaluation." Chapter 70 in James J. Heckman and Edward Leamer (eds.) *Handbook of Econometrics*, Volume 6B, pp. 4779-4874.

Heckman, James J. and Edward J. Vytlacil (2007b), "Econometric evaluation of social programs Part 2: Using the marginal treatment effect to organize alternative econometric estimators to evaluate social programs, and to forecast their effects in new environments." Chapter 71 in James J. Heckman and Edward Leamer (eds.) *Handbook of Econometrics*, Volume 6B, pp. 4875-5143.

Imbens, Guido M. and Jeffrey M. Wooldridge (2009), “Recent Developments in the Econometrics of Program Evaluation,” *Journal of Economic Literature*, Vol. 47, No. 1, pp. 5-86.

Shadish, W.R., Cook, T.D., e Campbell, D.T. 2002. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Boston: Houghton-Mifflin.

Woodridge, J.M. 2002. *Econometric Analysis of Cross-Section and Panel Data*. Cambridge: MIT Press.

1. **Introduction**

MHE – Chapter 1

Heckman, J. 2001. Micro Data, Heterogeneity, and the Evaluation of Public Policy. *Journal of Political Economy*, v. 109, n. 4. Primeira Parte.

Ravallion, M.. 2001. “The Mystery of Vanishing Benefits: An Introduction to Impact Evaluation,” *World Bank Economic Review,* 15(1), 115-140.

2. The Conditional Expectation Function and OLS Regression

MHE – Chapter 3.1

3. A Behavioral Model: The Roy Model

Roy, A. D. 1951. Some Thoughts on the Distribution of Earnings. *Oxford Economic Papers (New Series)*. 3:135-146.

Heckman, J. e B. Honoré. 1990. The Empirical Content of the Roy Model. *Econometrica*. 58(5): 1121-1149.

4. Causal Inference and Random Experiments

MHE – Chapters 2

Angrist, J. D. and A. B. Krueger (2000), "Empirical Strategies in Labor Economics,"in A. Ashenfelter and D. Card eds. *Handbook of Labor Economics*, vol. 3. New York: Elsevier Science. Sections 1 and 2.

Angrist, J., E. Bettinger, E. Bloom, E. King, e M. Kremer. (2002). Vouchers for Private Schooling in Colombia: Evidence from a Randomized Natural Experiment. *American Economic Review*, December.

Bloom, H. S., L. L. Orr, S. H. Bell, G. Cave, F. Doolittle, W. Lin and J. M. Bos (1997), "The Benefits and Costs of JTPA Title II-A Programs," *Journal of Human Resources*, vol. 32, 549-576.

Cox, D. R. (1992), "Causality: Some Statistical Aspects." *Journal of the Royal Statistical Society*, Series A, 155, part 2, 291-301.

Lalonde, R. (1986), "Evaluating the Econometric Evaluations of Training Programs," *American Economic Review*, 76, 604-620.

Duflo, Esther. (2005). Field Experiments in Development Economics. MIT: Dezembro. Mimeo.

Duflo, E., R. Glennerster e M. Kremer. (2006). "Using Randomization in Development Economics Research: A Toolkit". Poverty Action Lab, mimeo.

Duflo, Esther e Michael Kremer. (2004). Use of Randomization in the Evaluation of Development Effectiveness. Proceedings of Conference on Evaluating Development Effectiveness, July 15-16, 2003, World Bank Operations Evaluation Department (OED): Washington, D.C.

Heckman, J. (2008), "Econometric Causality." *IZA Discussion Paper Series* n. 3425.

Heckman, J. (2005). The scientific model of causality. Unpublished manuscript, University of Chicago, Department of Economics.

Heckman, J. (2001). Micro Data, Heterogeneity, and the Evaluation of Public Policy*. Journal of Political Economy*, v. 109, n. 4.

Heckman, J. (2000). Causal Parameters and Policy Analysis in Economics: A Twentieth Century Retrospective, *Quarterly Journal of Econometrics*, v. 115, n.1.

Holland, P., (1986), "Statistics and Causal Inference,"(with discussion), *Journal of the American Statistical Association*, 81, 945-970.

Imbens, G. and Wooldridge, J. (2008), "Recent Developments in the Econometrics of Program Evaluation," *NBER WP* 14251.

Krueger, A. (1999), "Experimental Estimates of Education Production Functions," *Quarterly Journal of Economics*, vol. 114, 497-532.

Miguel, E. e M. Kremer. (2004). Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities. *Econometrica*, 2004, 72 (1), 159-217

Rubin, D. 1974. Estimating Causal Effects of Treatments in Randomized and Non-randomized Studies. *Journal of Educational Psychology*, 66, 688-701

5. Non-Random Experiments: Selection on Observables

MHE – Chapters 3.2, 3.3, 3.4

Abadie, A., and G. Imbens, (2006), "Large Sample Properties of Matching Estimators for Average Treatment Effects," *Econometrica*, vol. 74-1, 235- 267.

Cochran, W. G., (1968), "The Effectiveness of Adjustment by Subclasiffication in Removing Bias in Observational Studies," *Biometrics*, vol. 24, 295-313.

Dehejia, R., and S. Wahba, (1999), "Causal Effects in Non-experimental Studies: Re-evaluating the Evaluation of Training Programs," *Journal of the American Statistical Association*, 94, 1053-1062.

Hahn, J., (1998), "On the Role of the Propensity Score in Efficient Semiparametric Estimation of Average Treatment Effects," *Econometrica* 66 (2), 315-331.

Heckman, J., H. Ichimura, and P. Todd, (1997), "Matching as an Econometric Evaluation Estimator: Evidence from Evaluating a Job Training Program," *Review of Economic Studies* 64, 605-654.

Heckman, J., and J. Hotz, (1989) "Choosing Among Alternative Nonexperimental Methods for Estimating the Impact of Social Programs: The Case of Manpower Training," (with discussion), *Journal of the American Statistical Association.*

Hirano, K., G. Imbens, and G. Ridder, (2003), "Efficient Estimation of Average Treatment Effects Using the Estimated Propensity Score," *Econometrica*,71, 1161-1189.

Imbens, G., (2004), "Nonparametric Estimation of Average Treatment Effects Under Exogeneity: A Review," *Review of Economics and Statistics*, 86, 4-29.

Imbens, G. (2014), “Matching Methods in Practice: Three Examples”, NBER Working Paper 19959, March 2014.

Rosenbaum, P., and D. Rubin, (1983), "The central role of the propensity score in observational studies for causal effects," *Biometrika*, 70, 1, 41-55.

Rosenbaum, P., and D. Rubin, (1984), "Reducing bias in observational studies using subclassification on the propensity score," *Journal of the American Statistical Association*, Vol 79, 516-5

Rubin, D. B., (1977), "Assignment to a Treatment Group on the Basis of a Covariate," *Journal of Educational Statistics*, 2, 1-26.

Smith, J. and P. Todd, (2005). "Does matching overcome LaLonde's critique of nonexperimental estimators*?," Journal of Econometrics*, vol. 125(1-2), pages 305-353.

GRADING

Written final exam: 40%
Take home exams: 20%
Presentations: 40%

PROFESSOR - EMAILS